

Application Notes For ISaGRAF PACs

Applications

Note: The GTM-201(P)-3GWA has been phased out in 2015, the user can choose the **GTM-203M-3GWA**.

Note: The XP-8xx7-Atom-CE6 has been phased out on Mar. 03, 2017.

Note: The I-7188EG/EGD will be phased out. Please select the compatible uPAC-7186EG/EGD.

» Schedule Control

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓							

- The ISaGRAF WinCE-based PACs support Schedule Control. Users just need a few simple steps to configure the date events, such as normal days, weekend, special holidays, make-up workdays and four seasons to meet the complex scheduling control needs.
- One ISaGRAF PAC can control many Schedules for maximum 10 control devices (Target). Each control device (Target) can control one Boolean, one Integer and one Real variable (total 3 variables).
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 166.

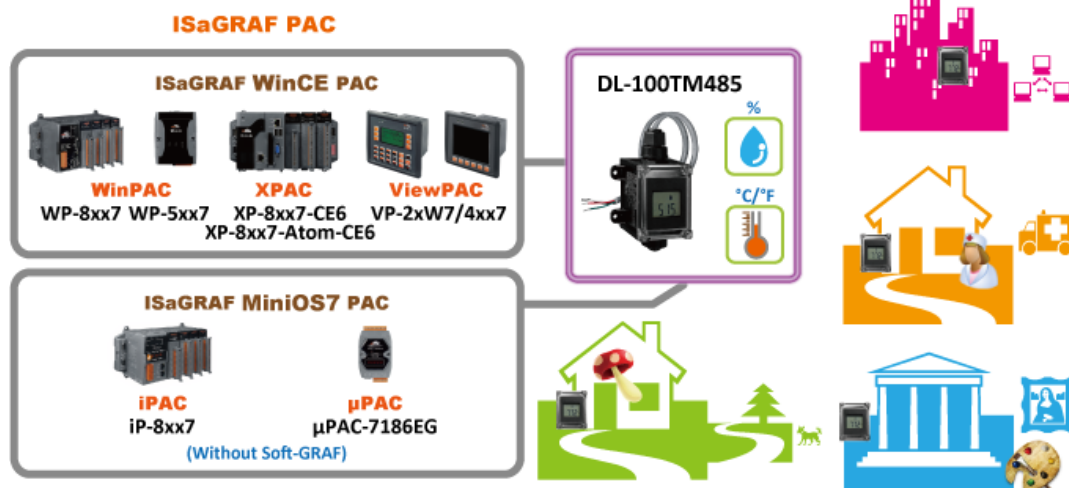
Schedule Control



» Measure Humidity and Temperature Values via DL-100TM485

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- ISaGRAF PAC support Modbus RTU protocol to read humidity and temperature values from the DL-100TM485. The DL-100TM485 is a temperature and humidity data logger module. It can apply in smart building, hospital, museums, greenhouse, etc.
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 156.

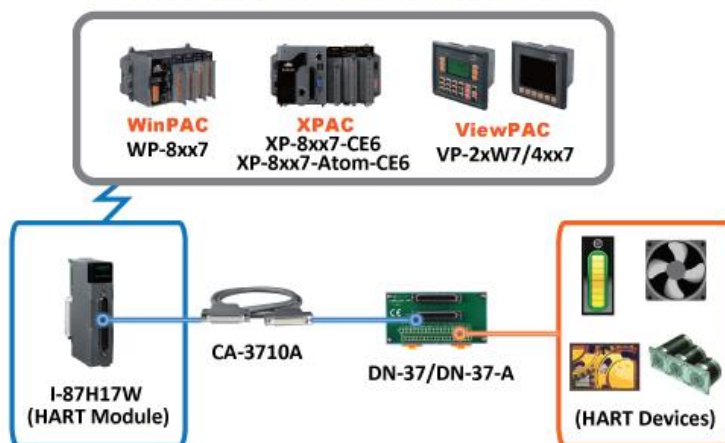


HART Solutions

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓		✓							

- ISaGRAF PAC support I-87H17W modules to communicate with other HART Devices.
(Driver version- XP-8xx7-CE6: 1.15 ; WP-8xx7: 1.35 ; VP-2xW7/4xx7: 1.27)
- ISaGRAF PAC support I-87H17W modules in its main control unit only (XP-8xx7-Atom-CE6, XP-8xx7-CE6: slot 1 ~ 7; WP-8xx7: slot 0 ~ 7; VP-2xW7/4xx7: slot 0 ~ 2). They don't support I-87H17W modules plugged in the RS-485 remote I/O expansion unit.
- I-87H17W provides eight Analog Input channels to measure 4 to 20 mA current input. It also can be used as 8-ch HART communication ports.
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 136.

ICP DAS HART Solutions for the ISaGRAF PAC

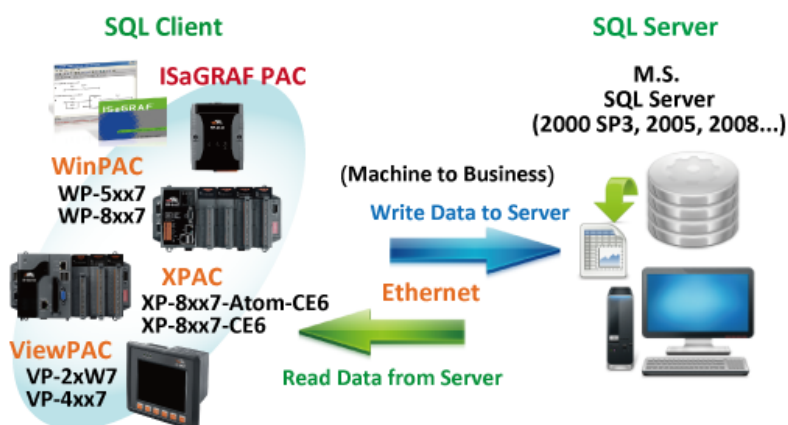


Database Application

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓							

- Supports SQL Client functions to write data to (or read data from) Microsoft SQL Servers (2000 SP3, 2005, 2008).
- One PAC can connect max. 4 Servers.
- The PAC supports Multi-Language (depends on the model number), include Traditional Chinese (Taiwan), Simplified Chinese, English, French, German, Italian, Portuguese, Russian, Spanish and others.
- Integrating Machine-Business Automation Application.
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 135.

ICP DAS WinCE PAC Support SQL Server Communication Application



- One PAC can connect max. 4 Servers.
- www.icpdas.com > Support > FAQ > Software > ISaGRAF > FAQ-135

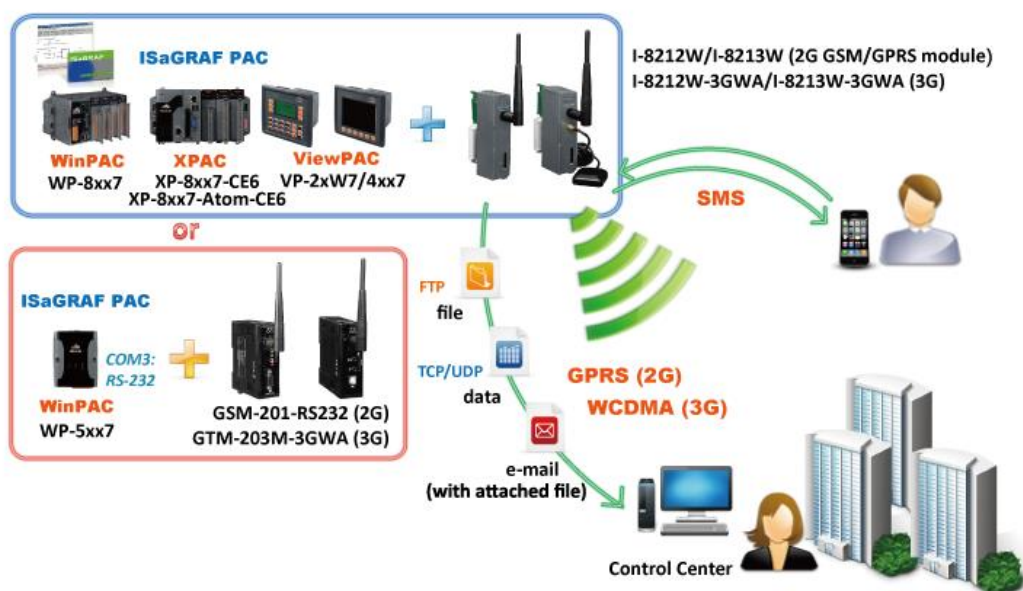
2G/3G Wireless Application

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓							

- The XP-8xx7-Atom-CE6, XP-8xx7-CE6, WP-8xx7, VP-2xW7/4xx7 and WP-5xx7 can communicate with remote Server by 2G/3G wireless modem.
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 143, 151, 153.

Note: The GTM-201(P)-3GWA has been phased out, the user can choose the GTM-203M-3GWA .

2G/3G Wireless Application



Motion Control: Using I-8094F/8092F/8094

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
	✓										

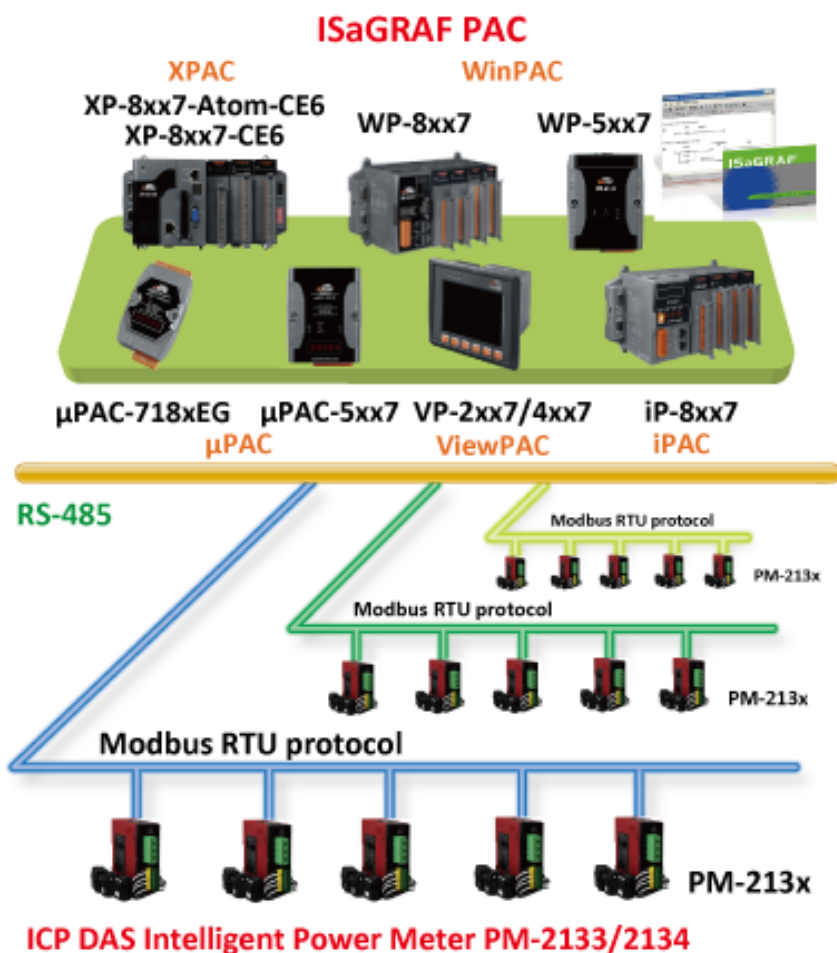
- I-8094 is a 4-axis high speed motion control module.
- I-8094F (4-axis) and I-8092F (2-axis) are high speed motion control modules with FRnet master.
- User can achieve HMI design, I/O control and motion control within the ISaGRAF software.
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 132.



ISaGRAF PAC connects the Intelligent Power Meter PM-2133/2134

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xx7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

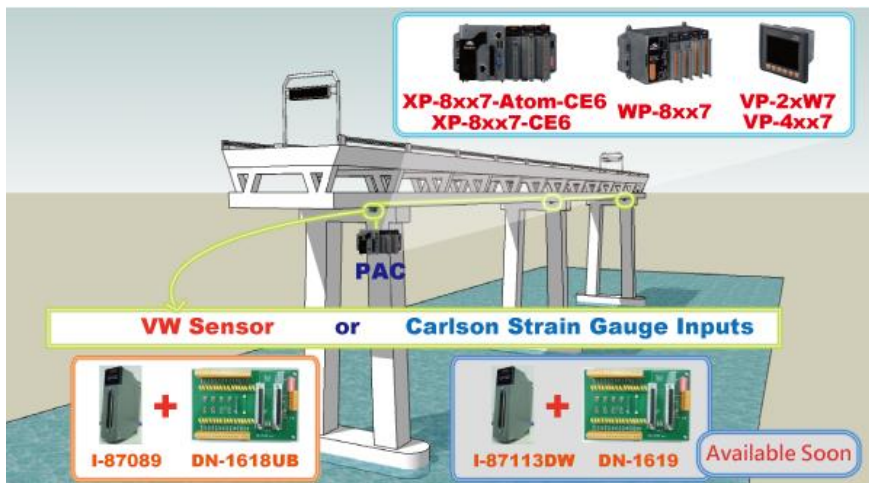
- Support standard Modbus protocol, support multiple RS-485 ports to connect to multiple PM-213x Smart meters.
- For the power measurement control systems in small/medium sized stores, buildings and factories with electric equipment.
- PM-213x smart meter with "Wh" pulse output is useful in the systems needing to connect the meter tester.
- PM-213x smart meter with wired clip-on CT is easily wiring for on-line installation, suitable for the uninterruptible power systems.
- PM-213x is a series of 3 Phase/4 Loops 1 Phase Compact Smart Meter with true RMS energy and power parameters measurement in compact size. The ISaGRAF PACs combining with PM-213x can apply to various control/monitor systems about intelligent electric power measurement.
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 129.



» Stress Monitoring Application of Constructions

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓		✓	✓	✓	✓				

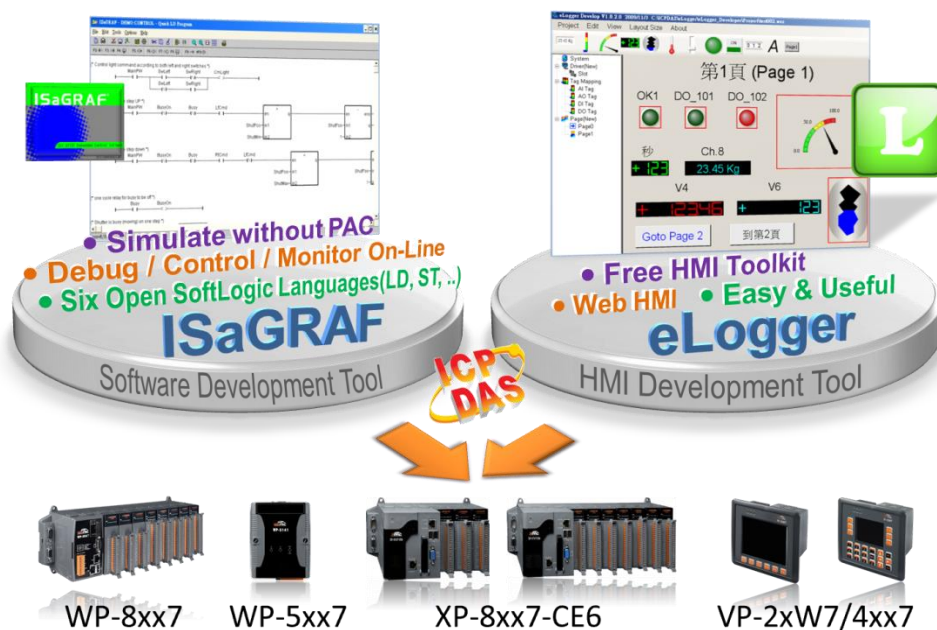
- ICP DAS releases effective "VW Sensor" (Vibration Wire solution) and "Carlson Strain Gauge Inputs" solution . It's useful for measuring the stress of constructions like building, bridge, dam, etc.
- Each ISaGRAF PAC (as FAQ-091) supports the I-87089 (the VW master card) plus the DN-1618UB (daughter board) to achieve the "VW Sensor" application.
- Each XP-8xx7-Atom-CE6, XP-8xx7-CE6, WP-8xx7 or VP-2xW7/4xx7 supports the I-87113DW module (the master card of Carlson Strain Gauge Inputs) plus the DN-1619 (DN-1618U-Test1) (daughter board) to achieve the "Carlson Strain Gauge Inputs" application.
- Please click www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 091, 128 for more information.



» eLogger HMI Application

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
	✓	✓	✓	✓							

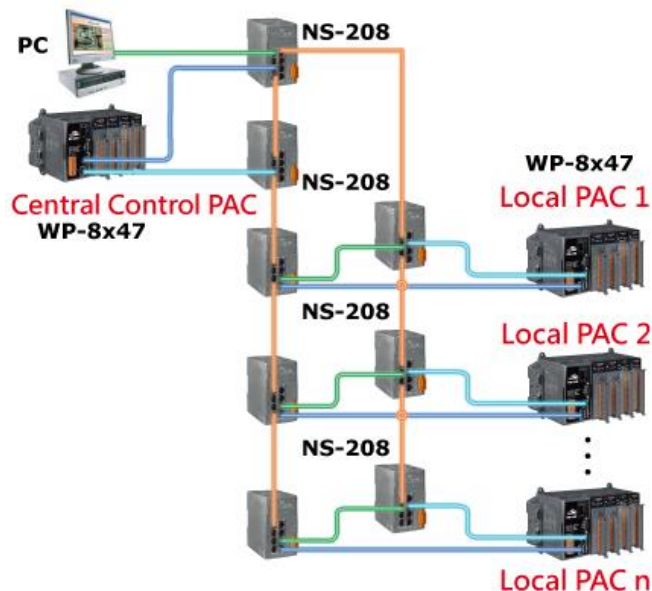
- ICP DAS eLogger is an easy and useful HMI development tool which helps user to create user-friendly pictures and control items.
- Recommend to use [eLogger HMI](#), the performance is better.
- Please refer to www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 115 : "Working eLogger HMI with ISaGRAF SoftLogic in the WP-8xx7, VP-2xW7/4xx7 and XP-8xx7-CE6 PAC" for more information about programming an Logger application.



Redundant Communication System

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓							

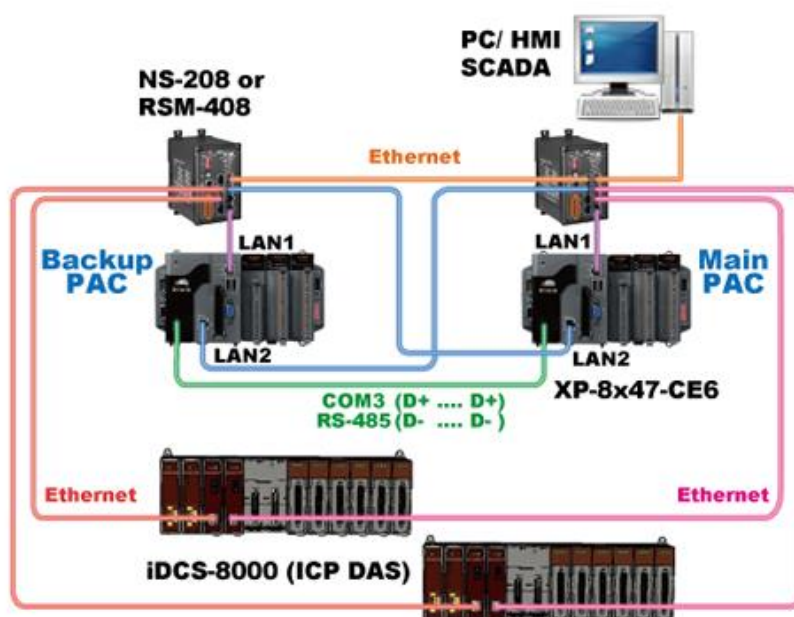
- Please refer to www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 119 for more information about RS-485 and Ethernet redundant communication mechanism and applications.



Redundant System with iDCS-8000

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓										

- Dual PACs, dual Ethernet ports redundant system.
- PC/HMI can just connect one IP address to link to the redundant system. If the active PAC is damaged, it will take about 1 seconds to switch to the other PAC.
- iDCS-8000: Dual power board, dual MCU, dual Ethernet port, dual I/O board redundant and with hot-swap function.
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 125.

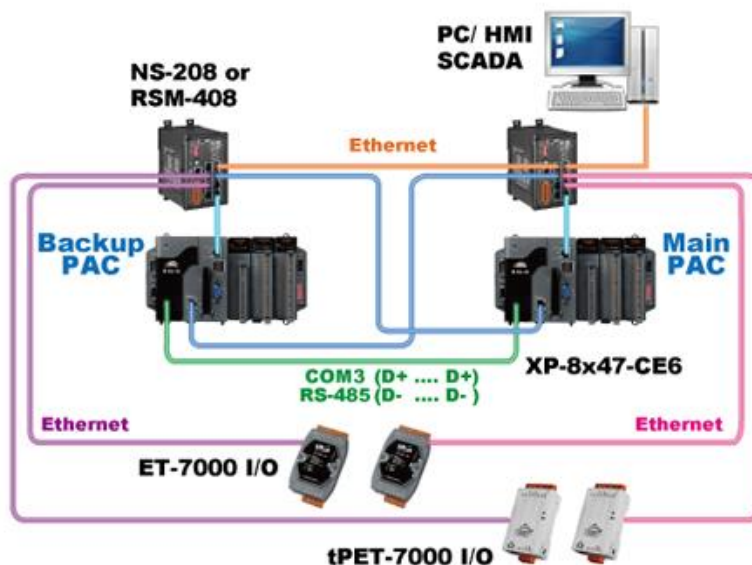


iDCS-8000 : I/O can be ET-7000, tPET-7000 series or other Modbus TCP Slave devices

Redundant System with Ethernet I/O

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓								

- If one Ethernet cable is broken or damaged, the other one will still handle the Ethernet I/O and exchange data with the other redundant controller.
- The scan of Ethernet I/O is much faster than that of RS-485 I-7000 or I-87K I/O.
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC -093, 125, 138.

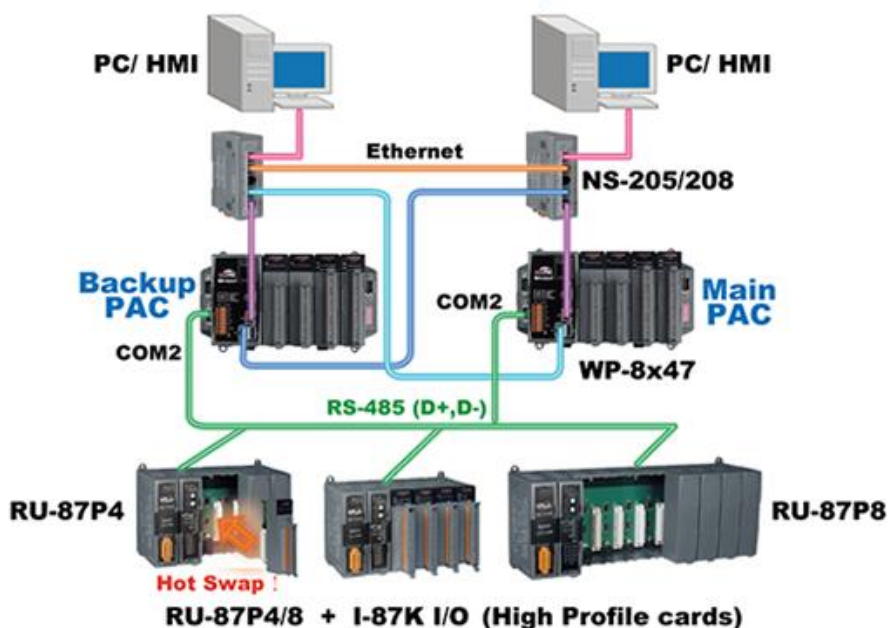


Redundant System with RS-485 I/O

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓							

- If one Ethernet cable of WP-8xx7 is broken or damaged, the other one will still work.
- If one controller is dead, the other one will take over the control of the RS-485 I/O.
- PC/HMI can connect to this redundant system by one or two active IP.
- Hot Swap I/O. (Apply to RU-87P1/2/4/8 with I-87K High profile I/O cards only)
- More at www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 093, 125, 138.

WP-8x47 or XP-8xx7-CE6 Redundant System with RS-485 I/O



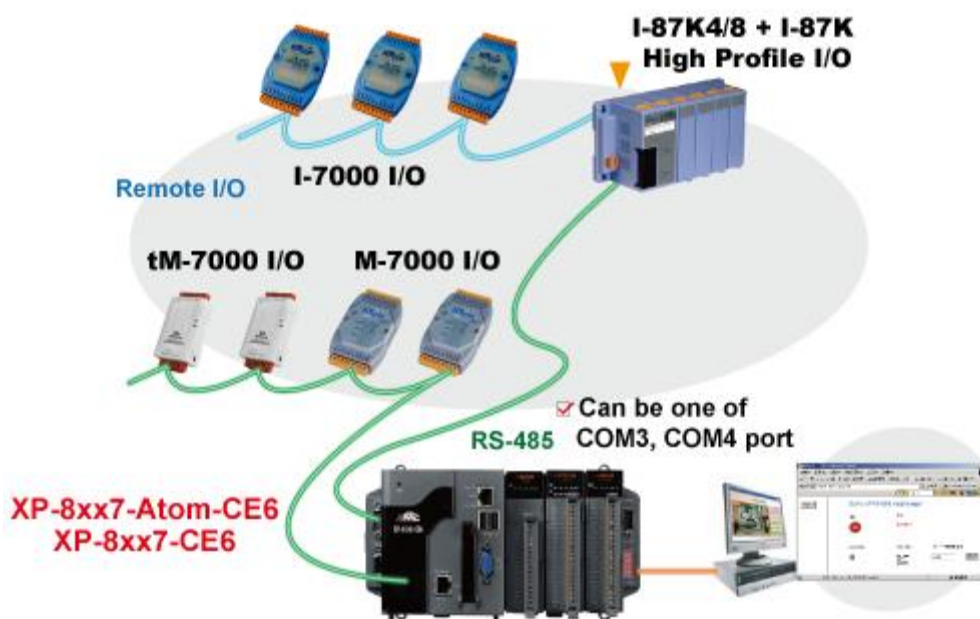
Remote I/O Modules and Expansion module/board

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- There are about 100 choices of Local I/O boards ([I-8K](#), [I-87K](#)) and Remote I/O modules ([I-7K](#), [M-7K](#) and [RU-87P1/2/4/8](#) + High Profile cards).

Expansion module/board

- The XP-8xx7-CE6, XP-8xx7-CE6 (add COM6 ~ 33), WP-8xx7, VP-2xW7/4xx7 (add COM5 ~ 14), VP-2117 (add COM5 ~ 16), iP-8xx7 (add COM5 ~ 20) supports RS-232/422/485 expansion module (I-81xxW). [more](#)
- The I-8xx7 (add COM5 ~ 20) supports RS-232/422/485 expansion module (I-81xx). [more](#)
- The μPAC-5x07 has an I/O expansion bus which can plug **One** I/O expansion board (XW-board). [more](#)
- The μPAC-7186EG(P), I-7188EG, I-7188XG has an I/O expansion bus which can plug **One** I/O expansion board (X-board). [more](#)



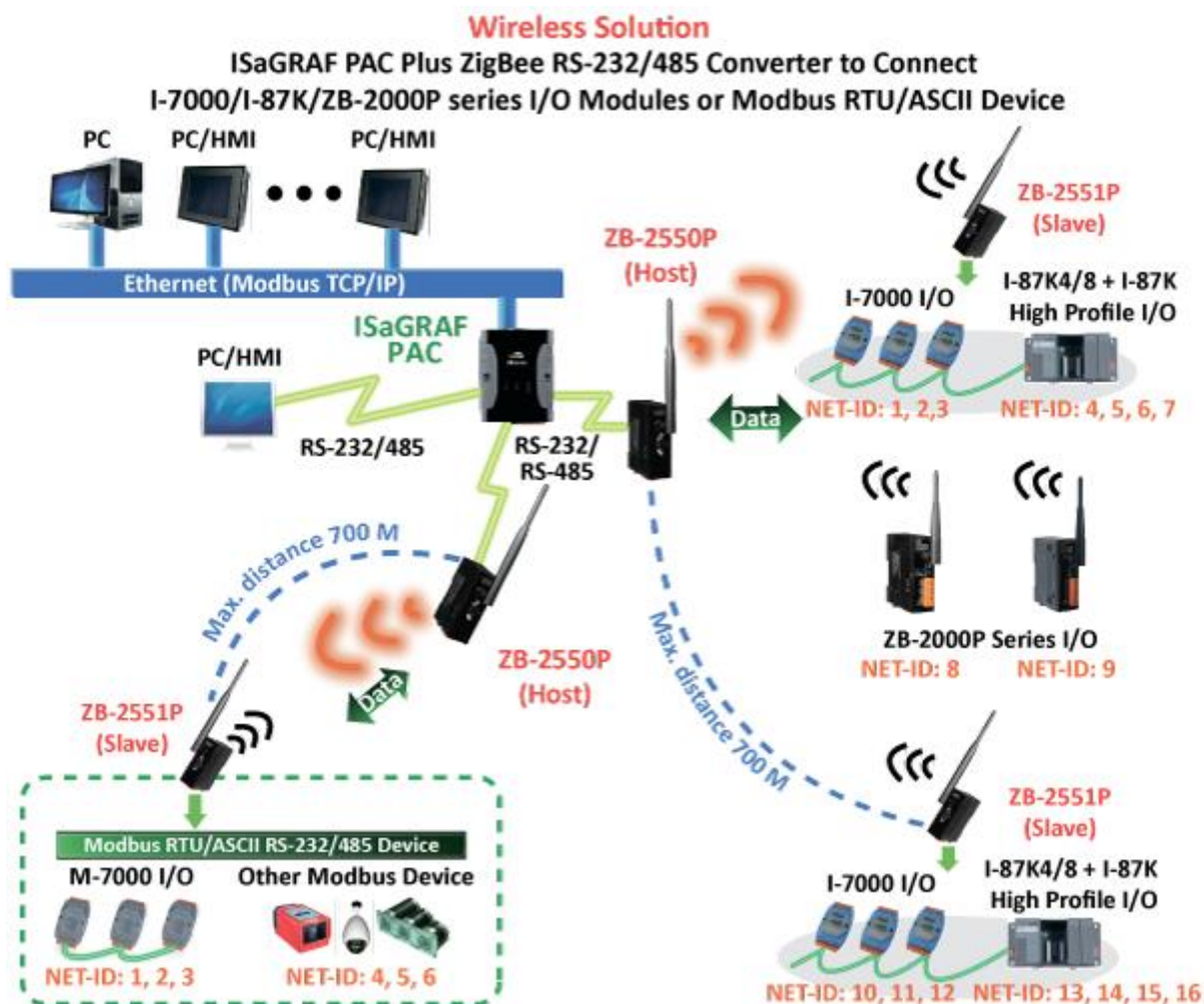
The Features of RU-87Pn (Remote I/O Expansion Unit)

- Hot Swap**
- Auto-Configuration**
 - Configurations of I-87K I/O modules can be pre-configured and stored in the nonvolatile memory of the RU-87Pn.
- Easy Duplicate System**
 - Using the DCON Utility, you can easily make a backup of the I-87K module configurations and write to another RU-87Pn.
- Full Software Support**
 - The free-of-charge software utility and development kits are included.

» ZigBee Wireless Solution

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- ISaGRAF PAC plus ZB-2550P and ZB-2551P (ZigBee to RS-232/485 Converters) can apply wireless communication, reduce the wiring cost, and achieve the mission of remote I/O control and data acquisition.
- Please click www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 110 for more information.

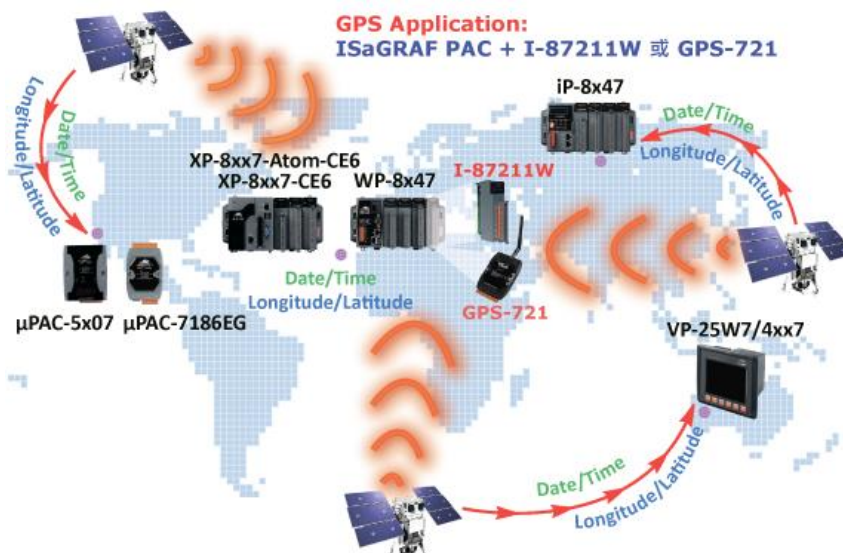


GPS Applications: ISaGRAF PAC plus I-87211W or GPS-721

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓		✓		✓		✓ (Note)	✓		

- The WP-8xx7, iP-8xx7, XP-8xx7-CE6, XP-8xx7-Atom-CE6, VP-2xW7/4xx7, μPAC-7186(P)EG, μPAC-5x07 supports one GPS-721/I-87211W as GPS I/O. (The PAC can communicate with the GPS-721 by RS-485/232; the I-87211W can plug into PAC units or Remote I/O Expansion units)
- For doing auto-time-synchronization and getting local Longitude and Latitude.
- Please click www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 107 for more information.
- More GPS receivers at www.icpdas.com > Product > Solutions > M2M > GPS Solutions.

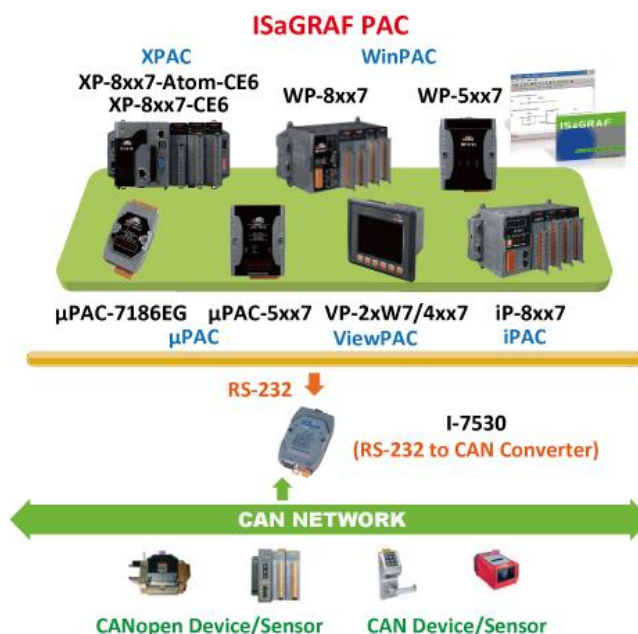
Note: The μPAC-5107, μPAC-5307 has built-in GPS function.



Integrate with CAN/CANopen Devices and Sensors

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓		✓	✓		

- The XP-8xx7-Atom-CE6, XP-8xx7-CE6 supports max. **32** I-7530 (RS-232 to CAN) converters.
- The VP-2xW7/4xx7, WP-8xx7/8x47 supports max. **10** I-7530 (RS-232 to CAN) converters.
- The VP-2117, iP-8xx7, μPAC-7186EG, μPAC-5x07 supports max. **3** I-7530 (RS-232 to CAN) converters.
- The XP-8xx7-Atom-CE6, XP-8xx7-CE6, WP-8xx7, VP-2xW7/4xx7 supports the I-8123W CANopen Master module to control the CANopen Slave devices (as FAQ-145).
- Please click www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 086, 145 for more information.

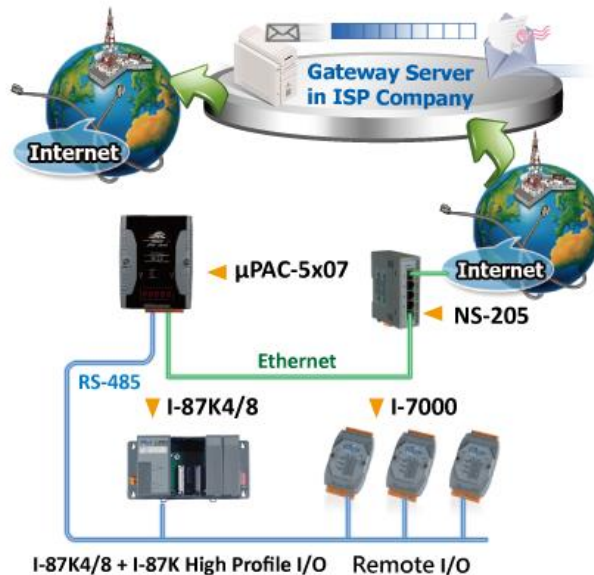


Send Email with One Attached File

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓ (Note)		✓	✓	✓	

- ISaGRAF PAC can send Email with one attached file via Ethernet Port. The maximum file size is about 488K bytes.
- One Email can send to 10 receivers at one sending.
- Please click www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 067 & 077 for more information.

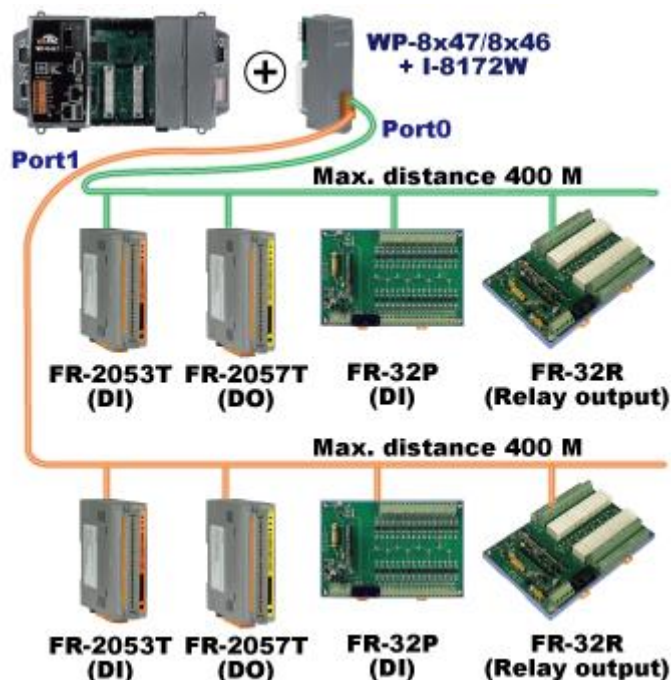
Note: The iP-8x17 doesn't support the feature.



An Easy Way to Program the Fast FRnet Remote I/O Modules

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓		✓	✓	✓		✓	✓		

- Fast I/O scan: About 3 ms per FRnet scan. (This depends on your ISaGRAF PLC program's scan time, if the ISaGRAF PLC scan time is 9 ms, then the scan time for all will be 9 ms, instead of 3 ms.)
- Please click www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 082 for more information.

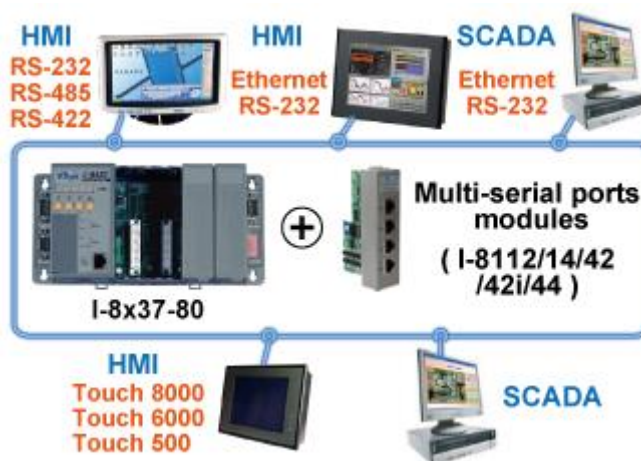


Modbus RTU/TCP Slave Ports

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓ (Note)	✓ (Note)	✓	✓	✓	✓ (Note)

- Modbus RTU (RS-232/485/422) : Max. **9** PC/HMI/SCADA connections
 VP-2117, iP-8xx7, μPAC-5x07, μPAC-7186EG, I-8x17, I-8x37-80 and I-7188EG/XG : Max. **2** Modbus RTU Slave ports
 VP-2xW7/4xx7, WP-8x37/8x47 and WP-5147 : Max. **5** Modbus RTU Slave ports
 XP-8xx7-CE6 : Max. **9** Modbus RTU Slave ports
 XP-8xx7-Atom-CE6 : Max. **8** Modbus RTU Slave ports
- Modbus TCP/IP : Max. **64** PC/HMI/SCADA connections
 I-8x37-80 and I-7188EG : Max. **4** Modbus TCP Slave connections
 VP-2117, iP-8x47, μPAC-5x07 and μPAC-7186EG : Max. **6** Modbus TCP Slave connections
 VP-2xW7/4xx7, WP-8x37/8x47 and WP-5147 : Max. **32** Modbus TCP Slave connections
 XP-8xx7-CE6, XP-8xx7-Atom-CE6 : Max. **64** Modbus RTU Slave ports

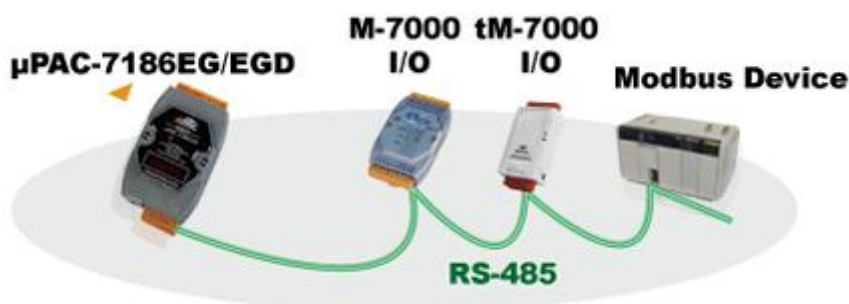
Note: The iP-8x17, I-8x17 and I-7188XG don't support Modbus TCP/IP Slave Port.



Modbus RTU/ASCII Master Ports

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

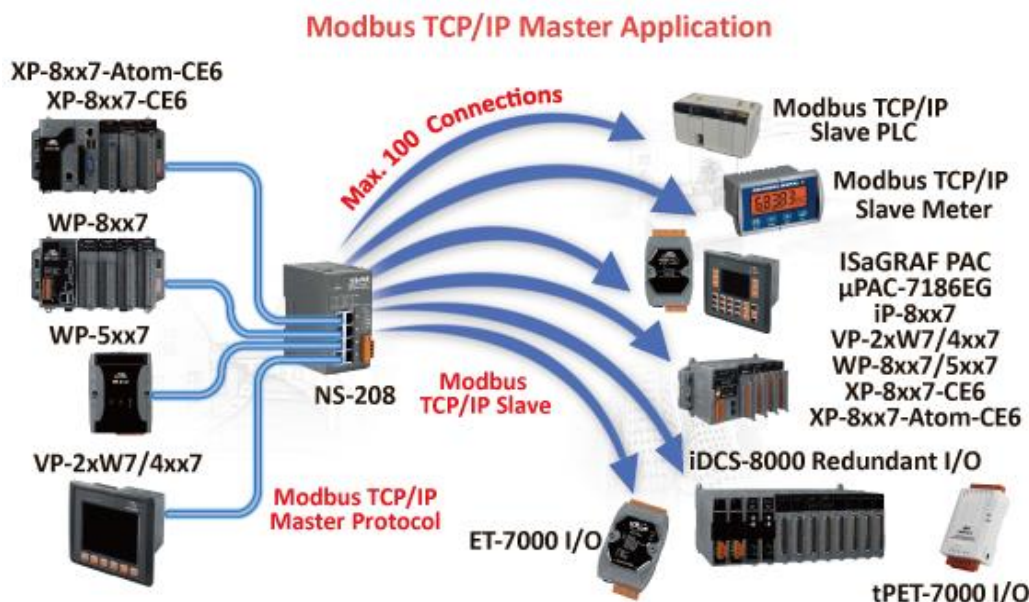
- Modbus RTU/ASCII (RS-232/485/422) : Max. **32** Modbus devices for each Master port
 VP-2117, iP-8xx7, μPAC-5x07, μPAC-7186EG, I-8xx7, I-8x37-80 and I-7188EG/XG : Max. **2** Modbus RTU Master ports
 VP-2xW7/4xx7, WP-8x37/8x47 and WP-5147 : Max. **10** Modbus RTU Master ports
 XP-8xx7-CE6 : Max. **33** Modbus RTU Master ports
 XP-8xx7-Atom-CE6 : Max. **32** Modbus RTU Master ports



Modbus TCP/IP Master

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓							

- Each XP-8xx7-Atom-CE6, XP-8xx7-CE6, WP-8xx7 or VP-2xW7/4137 supports to link to max. 100 Modbus TCP/IP slave devices.
- It support various standard Modbus TCP/IP Slave devices.
- Please click www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 113 for more information.



SMS: Short Message Service

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓	✓	✓ (Note)	✓	✓	✓

- The ISaGRAF PACs can integrate with a GSM Modem to support SMS: Short Message Service. This allows user to request information or perform control tasks for the ISaGRAF PAC via his personal cellular phone. In addition, the controller can also send information and alarms to user's cellular phone.
- The short message can be sent in multiple language format (like Chinese, English, others).
- Please click www.icpdas.com > Support > FAQ > ISaGRAF Soft-Logic PAC - 111 for more information.

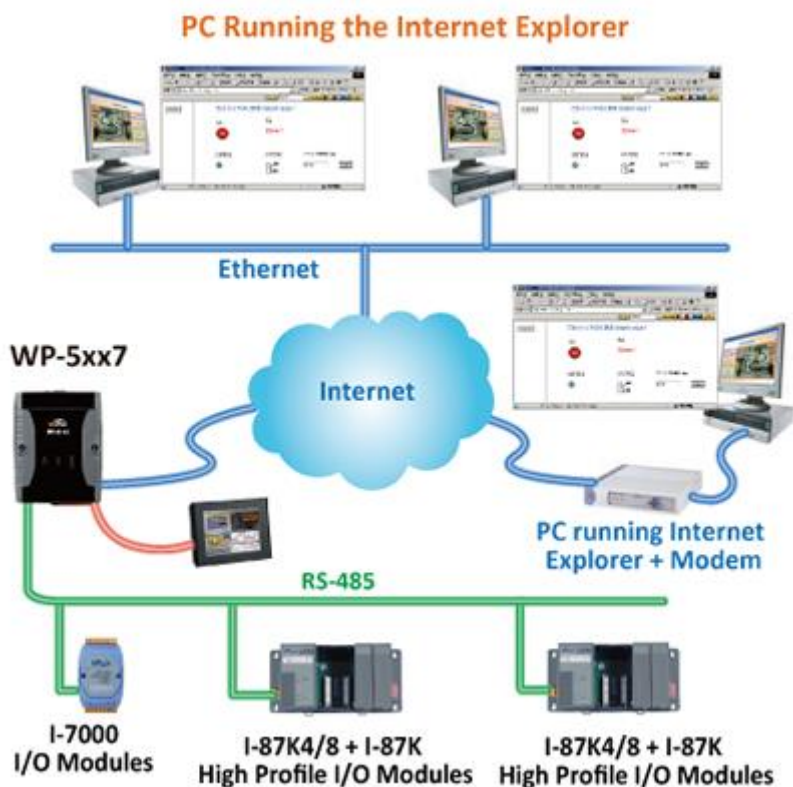
Note: The μPAC-5207/5307 has built-in GPRS, no external GSM/GPRS modem required.



Multiple Web HMI - Monitor & Control Everywhere!

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xxW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓							

- The Web HMI is a free software mechanism coming with some ICP DAS's PAC (Programmable Automation Controller). The Web HMI offers functions that you could monitor or control the local or remote controller via the Internet Explorer running on your PC. ([How to use ?](#))



Motion Control

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xxW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓		✓	✓	✓	✓ (Note)				

- One I-8091W can control 2-axis: X-Y plane, or 2 independent axes.
- Two I-8091W can control 4-axis: X-Y plane + 2 independent axes or 4 independent axes.
- Encoder Modules I-8093W : 3-axis ([FAQ-112](#)) ; I-8084W: 4-axis, without Z-index ([FAQ-100](#)) ; I-8090W: 3-axis

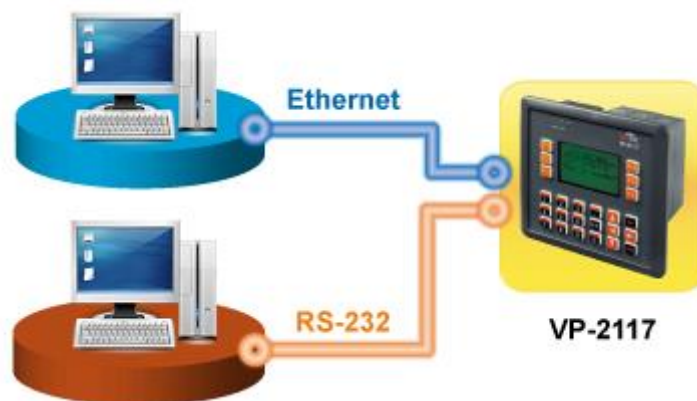
Note: The I-8xx7 don't support I-8093W.



Data Recorder and Data Logger

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- Data, date & time can be stored (e.g., Battery Backup SRAM, Flash & microSD card, optional X-board, XW-board, etc.) and then PC can load these data via communication interface. (e.g., RS-232, RS-485, Ethernet, etc.)



Data Exchange: Fbus or Ebus

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓ (Note)	✓ (Note)	✓ (Note)	✓ (Note)	✓ (Note)	✓	✓ (Note)	✓ (Note)	✓	✓	✓	✓ (Note)

Fbus (RS-485 Network)

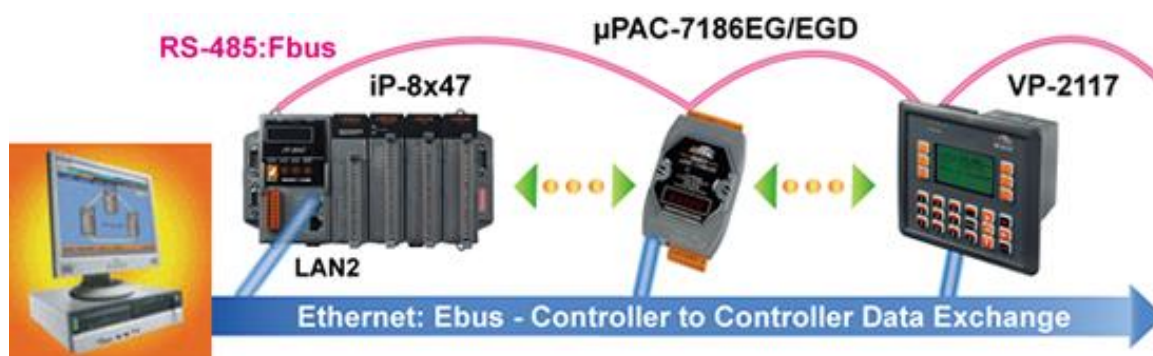
Each ISaGRAF PAC can use its RS-485 port to talk to each other via the Fbus communication mechanism. Fbus can be used to broadcast data to each controller or each controller can request to send or receive data from any other controller on the same Fbus network.

Ebus (Ethernet Network)

Each ISaGRAF PAC can use its Ethernet port to talk to each other via the Ebus communication mechanism. When PC is talking with controllers via Ethernet, the controllers can also talk to each other via the same Ethernet; It makes the configuration more flexible and faster.

Note: The XP-8xx7-Atom-CE6, XP-8xx7-CE6, WP-8xx7, WP-5147 and VP-2xW7/4xx7 don't support Fbus.

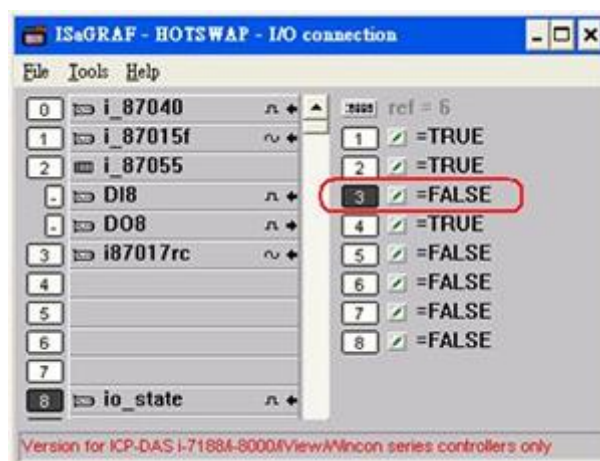
Note: The iP-8x17, I-8x17 and I-7188XG don't support Ebus.



» Detect I-8K/I-87K I/O status

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓		✓	✓	✓	✓				

- In ISaGRAF Workbench, you must connect the I/O board to the "I/O connection" windows correctly and select the "io_state" board then you can observe the I/O status.

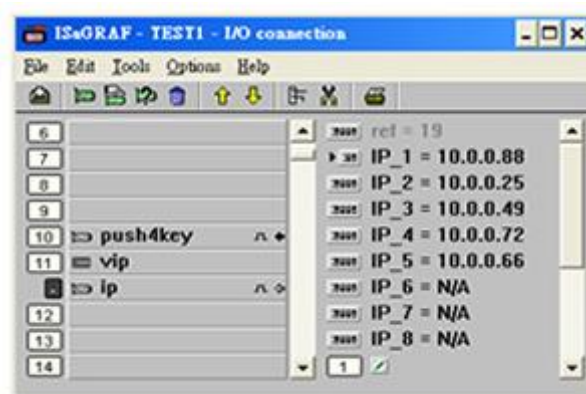


» VIP Communication Security

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓ (註)	✓ (註)	✓	✓	✓	

- Set VIP (Very Important IP No.) for Modbus TCP/IP security.

Note: The iP-8x17, I-8x17 don't support the feature.



As a Modbus Gateway for the Remote I/O Modules

XP-8xx7-Atom-CE6	XP-8xx7-CE6	WP-8xx7	WP-5147	VP-2xW7/4xx7	VP-2117	iP-8xx7	I-8xx7	μPAC-5x07	μPAC-7186EG(P)	I-7188EG	I-7188XG
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- The ISaGRAF PACs (with Ethernet port) can be a Modbus RTU Serial & TCP/IP gateway of I-7000 & I-87K Series I/O modules.
- The ISaGRAF PACs (without Ethernet port) can be a Modbus RTU Serial gateway of I-7000 & I-87K Series I/O modules.

